

# Curriculum Vitae

Konstantin Matveev

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## Address

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## Education

- 1982-1988 Studies in Physics at Moscow Institute of Physics and Technology.
- June 1988 Graduation with Honors. Diploma thesis title: *Inelastic tunneling across thin amorphous films*. Supervisor: Prof. A. I. Larkin.
- 1988-1990 Post Graduate, Institute of Solid State Physics, USSR Academy of Sciences, Chernogolovka. Supervisor: Prof. D. E. Khmel'nitskii.
- May 1991 Ph. D. from the Institute of Solid State Physics. Thesis title: *Effects of disorder and electron-electron interactions in tunnel microjunctions*. Supervisor: Prof. A. I. Larkin.

## Professional activities

- 1990-1991 Research Associate, Institute of Solid State Physics, USSR Academy of Sciences, Chernogolovka, USSR.
- 1991-1993 Research Associate, Theoretical Physics Institute, University of Minnesota, Minneapolis, MN.
- 1993-1996 Postdoctoral Associate, Massachusetts Institute of Technology, Cambridge, MA.
- 1996-2000 Assistant Professor, Duke University, Durham, NC.
- 2000-2005 Associate Professor, Duke University, Durham, NC.
- 2003-2009 Physicist, Argonne National Laboratory, Argonne, IL.
- 2009-present Sr. Physicist, Argonne National Laboratory, Argonne, IL.
- 2004 Visiting professor, RIKEN, Wako, Japan.

## Awards

1998 Alfred P. Sloan Research Fellowship.

2000 Japan Society for the Promotion of Science Fellowship.

2008 Fellowship in the American Physical Society.

## Students and Postdocs

Student: Oleg Tretiakov (Ph.D. 2005).

Postdocs: Thomas Gramspacher, Julia Meyer, Ashot Melikyan, Jérôme Rech, Maxim Kharitonov, Wade DeGottardi, Brian Skinner.

## Invited talks

- APS March Meeting, Pittsburgh, March 1994.
- NATO Workshop on Mesoscopic Superconductivity, Karlsruhe, May 1994.
- Workshop on Submicron Quantum Dynamics, ICTP, Trieste, June 1994.
- APS March Meeting, Kansas City, March 1997.
- Lorentz Center Workshop, Leiden, The Netherlands, June 1997.
- International Conference “Mesoscopic and Strongly Correlated Electron Systems,” Chernogolovka, Russia, June 1997.
- “Conference on Theoretical Physics,” Minneapolis, October 1997.
- Research Workshop of the Israel Science Foundation on “Strong Interactions in Quantum Dots.” Dead Sea, Israel, October 1997.
- Extended Research Workshop “Disorder, Chaos and Interactions in Mesoscopic Systems.” ICTP, Trieste, August 1998.
- ITP Conference on “Disorder and Interactions in Quantum Hall and Mesoscopic Systems.” Santa Barbara, August 1998.
- XVI Sitges Conference “Statistical and Dynamical Aspects of Mesoscopic Systems.” Sitges, Spain, June 1999.
- NATO Advanced Study Institute “Quantum mesoscopic phenomena and mesoscopic devices in microelectronics.” Ankara and Antalya, Turkey, June 1999.
- Workshop on “Mesoscopic physics of normal and superconducting systems,” Centre for Advanced Study, Oslo, August 1999.
- First Meeting of the Working Group WG5 on “Transport, interaction effects and phase coherence in quantum wires” (COST Action P5—Mesoscopic Electronics), Cambridge, UK, December 1999.

- Workshop on “Strongly Correlated Electron Systems,” Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, February 2000.
- Newton Institute EuroConference “Strongly Correlated Electron Systems: Novel Physics and New Materials,” Cambridge, UK, June 2000.
- Institute for Nuclear Theory program “Chaos and Interactions: from Nucleii to Quantum Dots,” Seattle, August 2002.
- International Workshop on “Field Theory Methods in Correlated Nanoscale Systems,” Brookhaven National Laboratory, Upton, NY, August 2003.
- International Argonne Theory Institute Miniconference “Electronic Properties of Nanoscale Systems,” Argonne, November 2003.
- Gordon Research Conference, South Hadley, MA, USA, June 2004.
- Advanced Research Workshop on “Fundamentals of Electronic Nanosystems,” St. Petersburg, Russia, June 2004.
- International Argonne Fall Workshop on Nanophysics, Argonne, November 2004.
- Yukawa Institute Workshop “Physics of Strongly Correlated Systems,” Kyoto, Japan, November 2004.
- Workshop “Non-Equilibrium and Correlation Effects in Low-Dimensional Structures,” Minneapolis, April 2005.
- Advanced Research Workshop “Fundamentals of Electronic Nanosystems,” St. Petersburg, Russia, June 2005.
- Boulder School for Condensed Matter and Materials Physics “Physics of Mesoscopic Systems,” Boulder, July 2005.
- Conference “Interactions and Dynamics in Low-Dimensional Quantum Systems,” Rehovot, Israel, January 2006.
- APS March Meeting, Baltimore, March 2006.
- Midwest Workshop “Quantum Transport and Magnetism,” Northwestern University, Evanston, March 2006.
- Conference “Frontiers of Condensed Matter Theory,” University of Minnesota, Minneapolis, May 2006.
- Advanced Research Workshop “Fundamentals of Electronic Nanosystems,” St. Petersburg, Russia, June 2006.
- International Argonne Fall Workshop on Nanophysics VI: Nanoscale Superconductivity and Magnetism, Argonne, November 2006.
- A. I. Larkin Memorial Conference, Chernogolovka, Russia, June 2007.
- The 3rd European Conference on the Fundamental Properties of Mesoscopic Physics and Nanoelectronics, Mojacar, Spain, September 2007.

- International Argonne Fall Workshop on Nanophysics VII: Nanoscale Superconductivity and Magnetism, Hsinchu, Taiwan, December 2007.
- APS March Meeting, New Orleans, March 2008.
- Joint Theory Institute Symposium, Chicago, April 2008.
- ICAM exploratory workshop “Superconductivity and Superfluidity in Finite Systems,” Madison, May 2008.
- Minerva International Workshop on “The Science of Complexity,” Eilat, Israel, March 2009.
- Summer College “Nonequilibrium Physics from Classical to Quantum Low Dimensional Systems,” ICTP, Trieste, Italy, July 2009.
- Institute for Nuclear Theory workshop “From Femtoscience to Nanoscience: Nuclei, Quantum Dots and Nanosciences,” University of Washington, Seattle, August 2009.
- Workshop “Quantum Transport in Electronic Nanosystems,” Karlsruhe, Germany, September 2009.
- Advanced Research Workshop “Fundamentals of Electronic Nanosystems,” St. Petersburg, Russia, June 2010.
- Workshop “Correlated Phenomena in Low-Dimensional Systems,” Dresden, Germany, July 2010.
- International School and Workshop on Electronic Crystals ECRYS-2011, Cargese, France, August 2011.
- “Sasha Gogolin Memorial Meeting,” Trieste, Italy, November 2011.
- Workshop “Spin Related Phenomena in Mesoscopic Transport,” Stockholm, Sweden, September 2012.
- Advanced Workshop “Energy Transport in Low-Dimensional Systems: Achievements and Mysteries,” Trieste, Italy, October 2012.
- Larkin-80 Memorial Conference, Moscow, Russia, November 2012.
- MTI Nonconventional Insulators Workshop, Argonne, IL, November 2012.
- MTI and ITS Fall Workshop 2013: Coherent Hybrid Structures on the Mesoscale, Evanston, IL, October 2013.
- 2014 Condensed Matter Theory PI Meeting, Gaithersburg, MD, August 2014.
- International Focus Workshop “Disorder, Interactions and Coherence: Warps and Delights,” Dresden, Germany, July 2016.
- Conference on New Trends in Quantum Heat and Thermoelectrics, Trieste, Italy, August 2016.

## Contributed talks

- Winter School on Solid State Physics, Kirovsk, January 1989.
- International Symposium ITF-NORDITA, Zvenigorod, October 1989.
- 26th All-Union Conference on Low Temperature Physics, Donetsk, June 1990.
- Soviet-German Conference on Electronic Properties of Semiconductor Microstructures, Gurzuph, October 1990.
- APS March Meeting, Indianapolis, March 1992.
- APS March Meeting, Seattle, March 1993.
- 20th International Conference on Low Temperature Physics, Eugene, August 1993.
- Workshop on Quantum Impurity Problems, Gainesville, February 1995.
- APS March Meeting, San Jose, March 1995.
- APS March Meeting, Los Angeles, March 1998.
- APS March Meeting, Seattle, March 2001.
- APS March Meeting, Montreal, Canada, March 2004.
- APS March Meeting, Dallas, March 2011.
- APS March Meeting, Boston, March 2012.

## Colloquia

- University of British Columbia, Vancouver, March 1995.
- Louisiana State University, Baton Rouge, April 1995.
- University of Arizona, Tucson, February 1996.
- Duke University, Durham, February 1996.
- University of Utah, Salt Lake City, February 1999.
- University of Virginia, Charlottesville, November 2002.
- University of Sherbrooke, Sherbrooke, Canada, October 2004.
- Argonne National Laboratory, Argonne, February 2005.
- IBM Research Center, Almaden, May 2005.
- Duke University, Durham, March 2006.
- University of Minnesota, Minneapolis, November 2008.
- Argonne National Laboratory, Argonne, March 2012.

## Talks at Seminars

- L. D. Landau Institute for Theoretical Physics (Chernogolovka), December 1986.
- Institute of Solid State Physics (Chernogolovka), April 1988.
- L. D. Landau Institute for Theoretical Physics (Chernogolovka), September 1988.
- Institute of Solid State Physics (Chernogolovka), December 1988.
- Institute of Solid State Physics (Chernogolovka), April 1989.
- Institute of Physical Problems (Moscow), November 1989.
- Institute of Solid State Physics (Chernogolovka), January 1990.
- A. F. Ioffe Physical Technical Institute (Leningrad), April 1990.
- Institute of Physical Problems (Moscow), June 1990.
- Institute of Solid State Physics (Chernogolovka), June 1990.
- Institute of Solid State Physics (Chernogolovka), May 1991.
- University of Minnesota (Minneapolis), April 1992.
- SUNY (Stony Brook), November 1992.
- AT&T Bell Laboratories (Murray Hill), November 1992.
- IBM T. J. Watson Research Center (Yorktown Heights), November 1992.
- Massachusetts Institute of Technology (Cambridge), November 1992.
- University of Pennsylvania (Philadelphia), November 1992.
- Cornell University (Ithaca), February 1993.
- University of Minnesota (Minneapolis), February 1993.
- Theoretical Physics Institute, University of Minnesota (Minneapolis), January 1994.
- Massachusetts Institute of Technology (Cambridge), May 1994.
- Theoretical Physics Institute, University of Minnesota (Minneapolis), January 1995.
- Case Western Reserve University (Cleveland), January 1995.
- University of California (Riverside), February 1995.
- Johns Hopkins University (Baltimore), February 1995.
- University of British Columbia (Vancouver), March 1995.
- AT&T Bell Laboratories (Murray Hill), September 1995.
- SUNY (Stony Brook), October 1995.

- University of Minnesota (Minneapolis), January 1996.
- Harvard University (Cambridge), March 1996.
- University of Florida (Gainesville), March 1996.
- Nordita Institute for Theoretical Physics (Copenhagen, Denmark), April 1996.
- University of Cambridge (UK), April 1996.
- University of Warwick (UK), April 1996.
- Cornell University (Ithaca), April 1996.
- Rowland Institute for Science (Cambridge), May 1996.
- University of North Carolina (Chapel Hill), February 1997.
- Technische Universiteit Delft (The Netherlands), May 1997.
- University of Maryland (College Park), February 1998.
- Cornell University (Ithaca), February 1998.
- Duke University (Durham), April 1998.
- University of Geneva, July 1998.
- University of Minnesota (Minneapolis), May 1999.
- Ohio State University (Columbus), November 1999.
- University of Maryland (College Park), February 2000.
- University of Cambridge (UK), February 2000.
- Bell Laboratories (Murray Hill), March 2000.
- Yukawa Institute for Theoretical Physics (Kyoto, Japan), April 2000.
- Institute of Solid State Physics, Tokyo University (Kashiwa, Japan), May 2000.
- Argonne National Laboratory (Argonne), August 2001.
- Rutgers University (Piscataway), December 2001.
- University of Chicago (Chicago), April 2003.
- Columbia University (New York), May 2003.
- Duke University (Durham), September 2003.
- RIKEN (Wako, Japan), February 2004.
- Georgia Institute of Technology (Atlanta), April 2004.
- University of Florida (Gainesville), April 2004.

- International Centre for Theoretical Physics (Trieste, Italy), March 2005.
- University of California (San Diego), June 2005.
- University of Wisconsin (Madison), September 2005.
- Purdue University (West Lafayette, IN), October 2005.
- RIKEN (Wako, Japan), December 2005.
- University of Karlsruhe, Germany, January 2006.
- Duke University (Durham), March 2006.
- University of Washington (Seattle), April 2006.
- Massachusetts Institute of Technology (Cambridge), November 2006.
- University of Utah (Salt Lake City), February 2007.
- ETH Zürich, September 2007.
- Ecole Polytechnique Fédérale de Lausanne, September 2007.
- The Ohio State University (Columbus), October 2007.
- RIKEN (Wako, Japan), February 2008.
- Duke University (Durham), October 2008.
- University of Minnesota (Minneapolis), November 2008.
- Northwestern University (Evanston), April 2009.
- University of Illinois, Urbana-Champaign, January 2010.
- RIKEN (Wako, Japan), March 2010.
- Duke University (Durham), April 2010.
- Massachusetts Institute of Technology (Cambridge), April 2010.
- University of California (San Diego), April 2010.
- RIKEN (Wako, Japan), March 2011.
- Massachusetts Institute of Technology (Cambridge), April 2011.
- Harvard University (Cambridge), June 2011.
- Stony Brook University (Stony Brook), October 2011.
- Yale University (New Haven), November 2012.
- Northwestern University (Evanston), April 2013.
- RIKEN (Wako, Japan), February 2014.

- University of Illinois, Urbana-Champaign, April 2014.
- University of Maryland, College Park, November 2014.
- RIKEN (Wako, Japan), February 2015.
- Laboratory of Theoretical Physics, University Paul Sabatier, Toulouse, France, May 2015.
- Duke University (Durham), March 2016.
- Laboratory of Theoretical Physics, University Paul Sabatier, Toulouse, France, September 2016.

## Publications

1. A. I. Larkin and K. A. Matveev, *Current-voltage characteristics of mesoscopic semiconductor contacts*, Zh. Eksp. Teor. Fiz. **93**, 1030–1038 (1987) [Sov. Phys. JETP **66**, 580–584 (1987)].
2. L. I. Glazman and K. A. Matveev, *Inelastic tunneling across thin amorphous films*, Zh. Eksp. Teor. Fiz. **94**, 332–343 (1988) [Sov. Phys. JETP **67**, 1276–1282 (1988)].
3. L. I. Glazman and K. A. Matveev, *Coulomb correlations in the tunneling through resonance centers*, Pis'ma Zh. Eksp. Teor. Fiz. **48**, No. 7, 403–406 (1988) [JETP Lett. Vol. 48, No. 7, 445–448 (1988)].
4. L. I. Glazman and K. A. Matveev, *Resonant Josephson current through Kondo impurities in a tunnel barrier*, Pis'ma Zh. Eksp. Teor. Fiz. **49**, No. 10, 570–573 (1989) [JETP Lett. Vol. 49, No. 10, 659–662 (1989)].
5. L. I. Glazman and K. A. Matveev, *Residual quantum conductivity under Coulomb-blockade conditions*, Pis'ma Zh. Eksp. Teor. Fiz. **51**, No. 8, 425–428 (1990) [JETP Lett. Vol. 51, No. 8, 484–486 (1990)].
6. L. I. Glazman and K. A. Matveev, *Lifting of the Coulomb blockade of one-electron tunneling by quantum fluctuations*, Zh. Eksp. Teor. Fiz. **98**, 1834–1846 (1990) [Sov. Phys. JETP **71**, 1031–1037 (1990)].
7. K. A. Matveev, *Quantum fluctuations of the charge of a metal particle under the Coulomb blockade conditions*, Zh. Eksp. Teor. Fiz. **99**, 1598–1611 (1991) [Sov. Phys. JETP **72**, 892–899 (1991)].
8. A. V. Khaetskii and K. A. Matveev, *Multiple-phonon-assisted tunneling in a magnetic field*, Phys. Rev. B **44**, 3444–3446 (1991).
9. A. V. Khaetskii and K. A. Matveev, *Phonon-assisted tunneling in a magnetic field: applications to hopping conductivity, tunnel junction and the quantum Hall effect*, J. Phys.: Condens. Matter **4**, 3491–3506 (1992).
10. K. A. Matveev and A. I. Larkin, *Interaction-induced threshold singularities in tunneling via localized levels*, Phys. Rev. B **46**, 15337–15347 (1992).

11. K. A. Matveev and L. I. Glazman, *Coulomb blockade of tunneling into a quasi-one-dimensional wire*, Phys. Rev. Lett. **70**, 990–993 (1993).
12. K. A. Matveev, M. Gisselält, L. I. Glazman, M. Jonson, and R. I. Shekhter, *Parity-induced Suppression of the Coulomb Blockade of Josephson Tunneling*, Phys. Rev. Lett. **70**, 2940–2943 (1993).
13. D. B. Chklovskii, K. A. Matveev, and B. I. Shklovskii, *Ballistic conductance of interacting electrons in the quantum Hall regime*, Phys. Rev. B **47**, 12605–12617 (1993).
14. K. A. Matveev and L. I. Glazman, *Conductance and Coulomb blockade in a multi-mode quantum wire*, Physica B **189**, 266–274 (1993).
15. F. W. J. Hekking, L. I. Glazman, K. A. Matveev, and R. I. Shekhter, *Coulomb blockade of two-electron tunneling*, Phys. Rev. Lett. **70**, 4138–4141 (1993).
16. L. I. Glazman, D. Yue, and K. A. Matveev, *Renormalization of potential scattering in a weakly interacting one-dimensional electron gas*, Physica A **200**, 512–518 (1993).
17. K. A. Matveev, D. Yue, and L. I. Glazman, *Tunneling in one-dimensional non-Luttinger electron liquid*, Phys. Rev. Lett. **71**, 3351–3354 (1993).
18. D. Yue, L. I. Glazman, and K. A. Matveev, *Conduction of a weakly interacting one-dimensional electron gas through a single barrier*, Phys. Rev. B **49**, 1966–1975 (1994).
19. C. L. Kane, K. A. Matveev, and L. I. Glazman, *Fermi edge singularities and backscattering in a weakly interacting one-dimensional electron gas*, Phys. Rev. B **49**, 2253–2256 (1994).
20. D. Ephron, M. R. Beasley, H. Bahlouli and K. A. Matveev, *Correlated hopping through thin disordered insulators*, Phys. Rev. B **49**, 2989–2992 (1994).
21. H. Bahlouli, K. A. Matveev, D. Ephron, and M. R. Beasley, *Coulomb correlations in hopping through a thin layer*, Phys. Rev. B **49**, 14496–14503 (1994).
22. K. A. Matveev, L. I. Glazman, and R. I. Shekhter, *Effects of charge parity in tunneling through a superconducting grain*, Mod. Phys. Lett. B **8**, 1007–1026 (1994).
23. K. A. Matveev, D. X. Yue, and L. I. Glazman, *Scattering on a localized defect in a weakly interacting one-dimensional electron gas*, Physica B **194**, 1135–1136 (1994).
24. L. I. Glazman, F. W. J. Hekking, K. A. Matveev, and R. I. Shekhter, *Coulomb blockade of Andreev reflection*, Physica B **194**, 1245–1246 (1994).
25. K. A. Matveev, *Charge fluctuations under the Coulomb blockade conditions*, Physica B **203**, 404–408 (1994).
26. L. I. Glazman, F. W. J. Hekking, K. A. Matveev, and R. I. Shekhter, *Charge parity in Josephson tunneling through a superconducting grain*, Physica B **203**, 316–326 (1994).
27. K. A. Matveev and L. I. Glazman, *Scattering on an impurity in a weakly interacting one-dimensional electron gas*, in “Quantum Dynamics of Submicron Structures,” edited by H. A. Cerdeira, B. Kramer, and G. Schön (Kluwer, Dordrecht, 1995).

28. K. A. Matveev, *Coulomb blockade at almost perfect transmission*, Phys. Rev. B **51**, 1743–1751 (1995).
29. A. Furusaki and K. A. Matveev, *Coulomb blockade oscillations of conductance in the regime of strong tunneling*, Phys. Rev. Lett. **75**, 709–712 (1995).
30. K. A. Matveev, L. I. Glazman, P. Clarke, D. Ephron, and M. R. Beasley, *Theory of hopping magnetoresistance induced by Zeeman splitting*, Phys. Rev. B **52**, 5289–5297 (1995).
31. A. Furusaki and K. A. Matveev, *Theory of strong inelastic cotunneling*, Phys. Rev. B **52**, 16676–16695 (1995).
32. K. A. Matveev, L. I. Glazman, and H. U. Baranger, *Tunneling spectroscopy of quantum charge fluctuations in the Coulomb blockade*, Phys. Rev. B **53**, 1034–1037 (1996).
33. K. A. Matveev, L. I. Glazman, and H. U. Baranger, *Theory of Coulomb blockade of tunneling through a double quantum dot*, Surf. Sci. **361-362**, 623–626 (1996).
34. K. A. Matveev, L. I. Glazman, and H. U. Baranger, *Coulomb blockade of tunneling through a double quantum dot*, Phys. Rev. B **54**, 5637–5646 (1996).
35. K. A. Matveev and L. I. Glazman, *Coulomb blockade of activated conduction*, Phys. Rev. B **54**, 10339–10341 (1996).
36. I. B. Altfeder, K. A. Matveev, and D. M. Chen, *Electron fringes on a quantum wedge*, Phys. Rev. Lett. **78**, 2815–2818 (1997).
37. K. A. Matveev and A. I. Larkin, *Parity effect in ground state energies of ultrasmall superconducting grains*, Phys. Rev. Lett. **78**, 3749–3752 (1997).
38. I. L. Aleiner and K. A. Matveev, *Shifts of random energy levels by a local perturbation*, Phys. Rev. Lett. **80**, 814–816 (1998).
39. I. B. Altfeder, D. M. Chen, and K. A. Matveev, *Imaging buried interfacial lattices with quantized electrons*, Phys. Rev. Lett. **80**, 4895–4898 (1998).
40. K. A. Matveev and L. I. Glazman, *Charge quantization in a normal Coulomb island strongly coupled to a superconductor*, Phys. Rev. Lett. **81**, 3739–3740 (1998).
41. K. A. Matveev, *Thermopower in Quantum Dots*, in “Statistical and Dynamical Aspects of Mesoscopic Systems,” ed. by D. Reguera, G. Platero, L. L. Bonilla, and J. M. Rubi (Proceedings of XVI Sitges Conference on Statistical Mechanics, Sitges, Barcelona, Spain, 7–11 June 1999), p. 3–15.
42. K. A. Matveev, *Quantum smearing of Coulomb blockade*, in “Quantum Mesoscopic Phenomena and Mesoscopic Devices in Microelectronics,” ed. by I. O. Kulik and R. Ellialtioglu (Proceedings of NATO ASI on Quantum Mesoscopic Phenomena and Mesoscopic Devices in Microelectronics, Ankara, Turkey, 13–25 June, 1999), p. 129–144.
43. K. A. Matveev, L. I. Glazman, and A. I. Larkin,  *$g$ -factors of discrete levels in nanoparticles*, Phys. Rev. Lett. **85**, 2789–2792 (2000).

44. T. Gramspacher and K.A. Matveev, *Smearing of Coulomb blockade by resonant tunneling*, Phys. Rev. Lett. **85**, 4582–4585 (2000).
45. A.V. Andreev and K. A. Matveev, *Coulomb blockade oscillations in the thermopower of open Quantum Dots*, Phys. Rev. Lett. **86**, 280–283 (2001).
46. L. I. Glazman and K. A. Matveev, *Charge quantization in S-I-N Coulomb blockade structures*, Physica C **352**, 51 (2001).
47. M. Turek and K. A. Matveev, *Cotunneling thermopower of single electron transistors*, Phys. Rev. B **65**, 115332 (2002).
48. A. Furusaki and K. A. Matveev, *Occupation of a resonant level coupled to a chiral Luttinger liquid*, Phys. Rev. Lett. **88**, 226404 (2002).
49. K. A. Matveev and A. V. Andreev, *Thermopower of a single-electron transistor in the regime of strong inelastic cotunneling*, Phys. Rev. B **66**, 045301 (2002).
50. K. A. Matveev, A. I. Larkin, and L. I. Glazman, *Persistent current in superconducting nanorings*, Phys. Rev. Lett. **89**, 096802 (2002).
51. O. A. Tretiakov, T. Gramspacher, and K. A. Matveev, *Lifetime of metastable states in resonant tunneling structures*, Phys. Rev. B **67**, 073303 (2003).
52. G. Seelig and K. A. Matveev, *Electron-phonon scattering in quantum point contacts*, Phys. Rev. Lett. **90**, 176804 (2003).
53. K. A. Matveev, *Conductance of a quantum wire in the Wigner-crystal regime*, Phys. Rev. Lett. **92**, 106801 (2004).
54. K. A. Matveev, *Conductance of a quantum wire at low electron density*, Phys. Rev. B **70**, 245319 (2004).
55. O. A. Tretiakov and K. A. Matveev, *Reply to “Comment on ‘Lifetime of metastable states in resonant tunneling structures’”*, Phys. Rev. B **71**, 047302 (2005).
56. G. Seelig, K. A. Matveev, and A. V. Andreev, *Phonon-induced resistivity of electron liquids in quantum wires*, Phys. Rev. Lett. **94**, 066802 (2005).
57. O. A. Tretiakov and K. A. Matveev, *Stochastic current switching in bistable resonant tunneling systems*, Phys. Rev. B. **71**, 165326 (2005).
58. T. Hikihara, A. Furusaki, and K. A. Matveev, *Renormalization of impurity scattering in one-dimensional interacting electron systems in magnetic field*, Phys. Rev. B **72**, 035301 (2005).
59. A. D. Klironomos, R. R. Ramazashvili, and K. A. Matveev, *Exchange coupling in a one-dimensional Wigner crystal*, Phys. Rev. B **72**, 195343 (2005).
60. A. D. Klironomos, R. R. Ramazashvili, and K. A. Matveev, *Exchange coupling in a one-dimensional Wigner crystal*, Journal de Physique IV **131**, 233 (2005).
61. O. A. Tretiakov and K. A. Matveev, *Decay of metastable current states in one-dimensional resonant tunneling devices*, Phys. Rev. B **73**, 115302 (2006).

62. A. D. Klironomos, J. S. Meyer, and K. A. Matveev, *Spontaneous spin polarization in quantum wires*, Europhys. Lett. **74**, 679 (2006).
63. K. A. Matveev, A. Furusaki, and L. I. Glazman, *Asymmetric zero-bias anomaly for strongly interacting electrons in one dimension*, Phys. Rev. Lett. **98**, 096403 (2007).
64. J. S. Meyer, K. A. Matveev, and A. I. Larkin, *Transition from a one-dimensional to a quasi-one-dimensional state in interacting quantum wires*, Phys. Rev. Lett. **98**, 126404 (2007).
65. A. D. Klironomos, J. S. Meyer, T. Hikihara, and K. A. Matveev, *Spin coupling in zigzag Wigner crystals*, Phys. Rev. B **76**, 075302 (2007).
66. K. A. Matveev, A. Furusaki, and L. I. Glazman, *Bosonization of strongly interacting one-dimensional electrons*, Phys. Rev. B **76**, 155440 (2007).
67. J. Rech and K. A. Matveev, *Resistivity of inhomogeneous quantum wires*, Phys. Rev. Lett. **100**, 066407 (2008).
68. J. Rech and K. A. Matveev, *Electronic transport in inhomogeneous quantum wires*, J. Phys.: Condens. Matter **20**, 164211 (2008).
69. K. A. Matveev and A. Furusaki, *Spectral functions of strongly interacting isospin- $\frac{1}{2}$  bosons in one dimension*, Phys. Rev. Lett. **101**, 170403 (2008).
70. J. S. Meyer and K. A. Matveev, *Wigner crystal physics in quantum wires*, J. Phys.: Condens. Matter **21**, 023203 (2009).
71. J. Rech, T. Micklitz, and K. A. Matveev, *Conductance of fully equilibrated quantum wires*, Phys. Rev. Lett. **102**, 116402 (2009).
72. M. Sitte, A. Rosch, J. S. Meyer, K. A. Matveev, and M. Garst, *Emergent Lorentz symmetry with vanishing velocity in a critical two-subband quantum wire*, Phys. Rev. Lett. **102**, 176404 (2009).
73. T. Micklitz, J. Rech, and K. A. Matveev, *Transport properties of partially equilibrated quantum wires*, Phys. Rev. B **81**, 115313 (2010).
74. K. A. Matveev, A. V. Andreev, and M. Pustilnik, *Equilibration of a One-Dimensional Wigner Crystal*, Phys. Rev. Lett. **105**, 046401 (2010).
75. A. Levchenko, T. Micklitz, J. Rech, and K. A. Matveev, *Transport in partially equilibrated inhomogeneous quantum wires*, Phys. Rev. B **82**, 115413 (2010).
76. Y. Tanaka, A. Furusaki, and K. A. Matveev, *Conductance of a helical edge liquid coupled to a magnetic impurity*, Phys. Rev. Lett. **106**, 236402 (2011).
77. K. A. Matveev and A. V. Andreev, *Equilibration of Luttinger liquid and conductance of quantum wires*, Phys. Rev. Lett. **107**, 056402 (2011).
78. A. Levchenko, T. Micklitz, Z. Ristivojevic, and K. A. Matveev, *Interaction effects on thermal transport in quantum wires*, Phys. Rev. B **84**, 115447 (2011).
79. K. A. Matveev and A. V. Andreev, *Equilibration of a spinless Luttinger liquid*, Phys. Rev. B **85**, 041102(R) (2012).

80. K. A. Matveev, A. V. Andreev, and M. Pustilnik, *Rate of equilibration of a one-dimensional Wigner crystal*, Physica B **407**, 1898 (2012).
81. K. A. Matveev and A. V. Andreev, *Scattering of hole excitations in a one-dimensional spinless quantum liquid*, Phys. Rev. B **86**, 045136 (2012).
82. I. Altfeder, K. A. Matveev, and A. A. Voevodin, *Imaging the electron-phonon interaction at the atomic scale*, Phys. Rev. Lett. **109**, 166402 (2012).
83. J. Lin, K. A. Matveev, and M. Pustilnik, *Thermalization of acoustic excitations in a strongly interacting one-dimensional quantum liquid*, Phys. Rev. Lett. **110**, 016401 (2013).
84. Z. Ristivojevic and K. A. Matveev, *Relaxation of weakly interacting electrons in one dimension*, Phys. Rev. B **87**, 165108 (2013).
85. K. A. Matveev, *Equilibration of a one-dimensional quantum liquid*, ZhETF **144**, 585 (2013) [J. Exp. Theor. Phys. **117**, 508 (2013)].
86. K. A. Matveev and A. Furusaki, *Decay of fermionic quasiparticles in one-dimensional quantum liquids*, Phys. Rev. Lett. **111**, 256401 (2013).
87. M. Pustilnik and K. A. Matveev, *Low-energy excitations of a one-dimensional Bose gas with weak contact repulsion*, Phys. Rev. B **89**, 100504(R) (2014).
88. Z. Ristivojevic and K. A. Matveev, *Decay of Bogoliubov quasiparticles in a nonideal one-dimensional Bose gas*, Phys. Rev. B **89**, 180507(R) (2014).
89. K. A. Matveev, A. V. Andreev, and A. D. Klironomos, *Scattering of charge and spin excitations and equilibration of a one-dimensional Wigner crystal*, Phys. Rev. B **90**, 035148 (2014).
90. M.-T. Rieder, T. Micklitz, A. Levchenko, and K. A. Matveev, *Interaction-induced backscattering in short quantum wires*, Phys. Rev. B **90**, 165405 (2014).
91. A. E. Koshelev and K. A. Matveev, *Anomalous density of states in multiband superconductors near the Lifshitz transition*, Phys. Rev. B **90**, 140505(R) (2014).
92. M. Pustilnik and K. A. Matveev, *Solitons in a one-dimensional Wigner crystal*, Phys. Rev. B **91**, 165416 (2015).
93. W. DeGottardi and K. A. Matveev, *Electrical and Thermal Transport in Inhomogeneous Luttinger Liquids*, Phys. Rev. Lett. **114**, 236405 (2015).
94. M. Pustilnik and K. A. Matveev, *Fate of classical solitons in one-dimensional quantum systems*, Phys. Rev. B **92**, 195146 (2015).
95. Z. Ristivojevic and K. A. Matveev, *Decay of Bogoliubov excitations in one-dimensional Bose gases*, Phys. Rev. B **94**, 024506 (2016).
96. K. A. Matveev and M. Pustilnik, *Effective mass of elementary excitations in Galilean-invariant integrable models*, Phys. Rev. B **94**, 115436 (2016).
97. L. Fang, J. Im, W. DeGottardi, Y. Jia, A. Glatz, K. A. Matveev, W.-K. Kwok, G. W. Crabtree, and M. G. Kanatzidis, *Large spin-orbit coupling and helical spin textures in 2D heterostructure [Pb<sub>2</sub>BiS<sub>3</sub>]/[AuTe<sub>2</sub>]*, Sci. Rep. **6**, 35313 (2016).